

What is claimed is:

1. An ultrasonic blade comprising:  
a blade body defined about a generally axial line;  
a cutting edge on the blade body defined by the intersection of a first surface and a second surface, the first surface comprising:  
a first incident angle of about  $0^{\circ}$  to  $35^{\circ}$  from the axial line;  
a first curve of about  $10^{\circ}$  to  $20^{\circ}$  formed at the first incident angle; and  
the second surface comprising:  
a second incident angle of about  $0^{\circ}$  to  $-35^{\circ}$  from the axial line; and  
a second curve of about  $10^{\circ}$  to  $20^{\circ}$  formed at the second incident angle.
2. The ultrasonic blade according to claim 1, wherein the first incident angle is about  $10^{\circ}$  to  $20^{\circ}$  from the axial line.
3. The ultrasonic blade according to claim 1, wherein the second incident angle is about  $-10^{\circ}$  to  $-20^{\circ}$  from the axial line.
4. The ultrasonic blade according to claim 2, wherein the first incident angle is about  $15^{\circ}$  from the axial line.
5. The ultrasonic blade according to claim 3, wherein the second incident angle is about  $-15^{\circ}$  from the axial line.
6. The ultrasonic blade according to claim 1, wherein the blade body is comprised of a metal.
7. The ultrasonic blade according to claim 6, wherein the blade body is comprised of a high speed steel.

8. The ultrasonic blade according to claim 6, wherein the blade body is comprised of a carbide steel.
9. The ultrasonic blade according to claim 1, wherein the first curve comprises a radius of about 0.001 inches to about 0.200 inches.
10. The ultrasonic blade according to claim 9, wherein the first curve comprises a radius of about 0.171 inches.
11. The ultrasonic blade according to claim 1, wherein the second curve comprises a radius of about 0.001 inches to about 0.200 inches.
12. The ultrasonic blade according to claim 11, wherein the second curve comprises a radius of about 0.171 inches.
13. A device to generate a profile for a cutting tool, the device comprising:
  - a base comprising:
  - a top surface; and
  - a chuck comprising:
    - a bore to detachably secure the cutting tool;
    - a first angled surface to mate with the top surface, wherein mating the first angled surface and the top surface disposes the cutting tool at a first incident angle;
    - a second angled surface to mate with the top surface, wherein mating the second angled surface and the top surface disposes the cutting tool at a second incident angle; and
  - the chuck being rotatably secured to the base.
14. The device according to claim 13, further comprising:
  - an indexing plate to secure the chuck to the base, the indexing plate having a rim to engage the base.

15. The device according to claim 14, further comprising:  
a stop to modulate rotation of the chuck relative to the base.
16. The device according to claim 14, wherein the stop comprises:  
an indexing pin disposed upon the base; and  
a slot disposed upon the indexing plate, wherein the indexing pin and slot are configured to provide a rotational start point and a rotational stop point for rotation of the chuck relative to the base.
17. The device according to claim 16, wherein the rotational start point and the rotational stop point are about  $10^{\circ}$  to  $20^{\circ}$  apart.
18. The device according to claim 16, wherein the rotational start point and the rotational stop point are about  $14.4^{\circ}$  apart.
19. The device according to claim 13, wherein the first incident angle is about  $0^{\circ}$  to about  $35^{\circ}$ .
20. The device according to claim 19, wherein the first incident angle is about  $15^{\circ}$ .
21. The device according to claim 13, wherein the second incident angle is about  $0^{\circ}$  to about  $35^{\circ}$ .
22. The device according to claim 21, wherein the second incident angle is about  $15^{\circ}$ .

23. A device for generating a profile of an ultrasonic blade, the device comprising:
- means for introducing a first side of a blade body to an abrasive surface at a first incident angle, the blade body defined about a generally axial line, the first incident angle being  $0^{\circ}$  to  $35^{\circ}$  from the axial line;
  - means for rotating the blade body relative to the abrasive surface and at the first incident angle, the rotation being about  $10^{\circ}$  to  $20^{\circ}$ ;
  - means for withdrawing the blade body from the abrasive surface;
  - means for introducing a second side of the blade body to the abrasive surface at a second incident angle, the second incident angle being  $0^{\circ}$  to  $35^{\circ}$  from the axial line;
  - and
  - means for rotating the blade body relative to the abrasive surface and at the second incident angle, the rotation being about  $10^{\circ}$  to  $20^{\circ}$ .
24. The device according to claim 23, further comprising:
- means for advancing the first side relative to the abrasive surface until a first surface intersects the axial line; and
  - means for advancing the second side relative to the abrasive surface until a second surface intersects the axial line.
25. The device according to claim 23, further comprising:
- means for rotating the blade body relative to the abrasive surface at a radius of about 0.001 inches to about a radius of about 0.200 inches and at the first incident angle.
26. The device according to claim 23, further comprising:
- means for rotating the blade body relative to the abrasive surface at a radius of about 0.001 inches to about a radius of about 0.200 inches and at the second incident angle.

27. The device according to claim 23, wherein the means for introducing the first side further comprises a means for introducing the blade body to the abrasive surface at the first incident angle of about  $10^{\circ}$  to  $20^{\circ}$  from the axial line.

28. The device according to claim 23, wherein the means for introducing the second side further comprises a means for introducing the blade body to the abrasive surface at the second incident angle of about  $-10^{\circ}$  to  $-20^{\circ}$  from the axial line.

29. A method of generating a profile of an ultrasonic blade, the method comprising:

introducing a first side of a blade body to an abrasive surface at a first incident angle, the blade body defined about a generally axial line, the first incident angle being  $0^{\circ}$  to  $35^{\circ}$  from the axial line;

rotating the blade body relative to the abrasive surface and at the first incident angle, the rotation being about  $10^{\circ}$  to  $20^{\circ}$ ;

withdrawing the blade body from the abrasive surface;

introducing a second side of the blade body to the abrasive surface at a second incident angle, the second incident angle being  $0^{\circ}$  to  $35^{\circ}$  from the axial line; and

rotating the blade body relative to the abrasive surface and at the second incident angle, the rotation being about  $10^{\circ}$  to  $20^{\circ}$ .

30. The method according to claim 29, further comprising:

advancing the first side relative to the abrasive surface until a first surface intersects the axial line; and

advancing the second side relative to the abrasive surface until a second surface intersects the axial line.

31. The method according to claim 29, further comprising:

rotating the blade body relative to the abrasive surface at a radius of about 0.001 inches to about a radius of about 0.200 inches and at the first incident angle.

32. The method according to claim 29, further comprising:  
rotating the blade body relative to the abrasive surface at a radius of about 0.001 inches to about a radius of about 0.200 inches and at the second incident angle.
33. The method according to claim 29, wherein the first incident angle is about 10° to 20° from the axial line.
34. The method according to claim 33, wherein the first incident angle is about 15° from the axial line.
35. The method according to claim 29, wherein the second incident angle is about -10° to -20° from the axial line.
36. The method according to claim 35, wherein the second incident angle is about -15° from the axial line.
37. The method according to claim 31, wherein the blade body is comprised of a metal.
38. The method according to claim 37, wherein the blade body is comprised of a high speed steel.
39. The method according to claim 37, wherein the blade body is comprised of a carbide steel.